

***U.S. Environmental Protection Agency
Caribbean Environmental Protection Division
Environmental Management Branch***

***SUPPLEMENTAL
RCRA FACILITY ASSESSMENT***

***LILLY DEL CARIBE, INC
MAYAGUEZ, PUERTO RICO
PRD 091024786***

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702

Lilly del Caribe, Mayaguez, Puerto Rico
RCRA Permit Renewal

September 2003

ATTACHMENT L
RCRA Facility Assessment Reports

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I – Introduction:

A visual site inspection (VSI) was conducted at the Lilly del Caribe, Inc. (Lilly) of Mayagüez, Puerto Rico facility on August 29, 2002. The purpose of the VSI was to supplement and to update the Puerto Rico Environmental Quality Board (EQB) October 2000 RCRA Facility Assessment (RFA) Update Report.

EQB's October 2000 RFA Update Report identified the following solid waste management units (SWMU):

- SWMU # 1 - Wastewater Treatment Plant (tanks & lagoons)
- SWMU # 2 - Liquid wastes Incinerator
- SWMU # 3 - Permitted Hazardous Wastes Tanks (5- 12,000 gals. each)
- SWMU # 4 - Permitted Hazardous Wastes Containers Storage Area
- SWMU # 5 - Hazardous Wastes Storage Tanks (3- 50,000 gals. each.)
- SWMU # 6 - Non-Hazardous Wastes & Empty Drums Storage Area
- SWMU # 7 - Empty Drums Rinsing and Crushing Area
- SWMU # 8 - Crushed Drums Staging Area
- SWMU # 9 - Wood Pallets Staging Area
- SWMU # 10 - Used Batteries Staging Area
- SWMU # 11 - Used Oil Storage Area
- SWMU # 12 - Construction Debris/Soil Staging Area
- SWMU # 13 - Fire Training Area
- SWMU # 14 - Old Fire Training Area
- SWMU # 15 - Spent Solvents Tanks for Outside Recovery
- SWMU # 16 - VIC Unit Condensate Tanks
- SWMU # 17 - Edward Unit Tank
- SWMU # 18 - Hazardous Wastes Truck Tank Loading and Unloading Area
- SWMU # 19 - Raw Materials in Truck Tank Loading and Unloading Area
- SWMU # 20 - Hazardous Wastes Containers Loading and Unloading Area
- SWMU # 21 - Secondary waste lift station (2)
- SWMU # 22 - Hazardous Wastes Satellite Accumulation Areas
- SWMU # 23 - Non-Hazardous Wastes Satellite Accumulation Areas
- SWMU # 24 - Hazardous Waste Generator Tank

During the VSI, EPA learned of the existence of six (6) SWMUs and Areas of Concern (AOCs) not identified in the October 2000 RFA Update report. The Following SWMUs and AOCs were identified during the visual site inspection:

- SWMU # 8b - Crush Drums Staging Area
- SWMU # 9b - Wood Pallets Staging Area
- SWMU # 11 - Recycling Material Area
- SWMU # 20 - Asbestos for Disposal Accumulation Area
- SWMU # 21 - Callidus Liquid Incinerator
- AOC # 4 - Generator Building

Modifications were made to several SWMUs identified on the October 2000 RFA Update Report. These modification ranged from change in the unit "Current Status" (units that were identified as active became inactive and vis-a-vis), additions of unit, and "Release Control" system expansion.

The following table summarizes all SWMUs and AOCs identified from the VSI and file review. Also the tables shows the "Unit Number" used in the October 2000 RFA Update for reference and consistency. Also note that several SWMUs were changed to AOCs since solid waste was never managed in the unit. Attachment A contains, Figure B-7, a diagram with the location of the SWMUs and AOCs.

SWMU/Description	SWMU Number used in the October 2000 RFA Update Report	Modifications from the October 2000 RFA Update Report
SWMU #1 - Wastewater Treatment Plant	SWMU # 1	None
SWMU #2 - Brule Liquid Waste Incinerator	SWMU # 2	None
SWMU #3 - Hazardous Waste Storage Tanks (6 - 12,000 gallons each)	SWMU # 3	One 12,000 gallons tank was added.
SWMU #4 - Hazardous Waste Container Storage Area	SWMU # 4	None
SWMU #5 - Hazardous Waste Storage Tanks (4 - 50,000 gallons each)	SWMU # 5	One tank was added for a total of 4 - 50,000 gallons tank.
SWMU #6 - Non-Hazardous Waste & Empty Drums Storage Area	SWMU # 6	None
SWMU #7 - Empty Drum Rinsing and Crushing Area	SWMU # 7	None
SWMU #8a - Former Crush Drum Staging Area	SWMU # 8	Unit became inactive.
SWMU #8b - Crush Drum Staging Area	NEW	New, active unit replacing SWMU # 8a.
SWMU #9a - Former Wood Pallet Staging Area	SWMU # 9	Unit became Inactive.
SWMU #9b - Wood Pallet Staging Area	NEW	New, active unit replacing SWMU # 9a
SWMU #10 - Former Used Batteries Staging Area	SWMU # 10	None
SWMU #11 - Recycling Material Area	NEW	Existing unit that was not included in the October RFA Update Report.

SWMU/Description	SWMU Number used in the October 2000 RFA Update Report	Modifications from the October 2000 RFA Update Report
SWMU #12 - Construction Debris/Soil Staging Areas (L ₁ & L ₂)	SWMU # 12	None
SWMU # 13 - Spent Solvents Tanks for Outside Recovery	SWMU # 15	None
SWMU # 14 - VIC Unit Condensate Tanks (2)	SWMU # 16	None
SWMU #15 - Edward Unit Tanks	SWMU # 17	None
SWMU #16 - Hazardous Waste Tank Trucks Loading and Unloading Area	SWMU # 18	Secondary tank size was increased.
SWMU #17 - Hazardous Waste Containers Loading and Unloading Area	SWMU # 20	Release control description added in this report.
SWMU #18a - South Process Waste Lift Station	SWMU # 21	A release was observed from a tank to the floor of the underground vault.
SWMU #18b -North Process Waste Lift Station	SWMU # 21	None
SWMU #19 - Used Oil Accumulation Area	SWMU # 11	None
SWMU #20 - Asbestos for Offsite Disposal Accumulation Area	NEW	Existing unit that was not included in the October RFA Update Report.
SWMU #21 - Hazardous Waste Generator Tanks	SWMU # 24	None
SWMU #22 - Callidus Liquid Incinerator	NEW	New unit. Still not operating.
AOC #1 - Old Fire Training Area	SWMU # 14	None
AOC #2 - Fire Training Area	SWMU # 13	Unit became active.
AOC #3 - Raw Materials Tank Trucks loading and Unloading Area	SWMU # 19	None

SWMU/Description	SWMU Number used in the October 2000 RFA Update Report	Modifications from the October 2000 RFA Update Report
AOC #4 - Generator Building	NEW	Hazardous waste, wastewater, and storm water samples spilled during Hurricane George in 1998

This Supplemental RFA report will only discuss the six additional SWMUs and AOCs identified during the VSI and file review, and SWMUs that have been modified since the October 2000 RFA Update report. All of the SWMUs and the AOCs were observed during the VSI. Reference should be made to the EQB's October 2000 RFA Update report (Attachment B) for those SWMUs not discussed in this Supplemental RFA report and for facility background information.

II. SOLID WASTE MANAGEMENT UNITS and AREA OF CONCERNS

UNIT NUMBER: SWMU-8a

UNIT NAME: Former Crush Drums Staging Area

UNIT LOCATION: East corner of the facility, Southeast to the New Callidus Liquid Incinerator.

UNIT DESCRIPTION: Approximately 30 feet by 20 feet dirt floor area, partially covered with vegetation. Crush metal drums were accumulated in containers or bins prior to their shipment to a metal recycling facility.

RELEASE CONTROL: N/A

DATE OF OPERATIONS STARTED: 1980

CURRENT STATUS: Inactive

WASTES MANAGED: Crush drums that previously contained Lilly's products or raw material. Once the drums meet the definition of RCRA empty, they are crushed at SWMU #7, Crush Drums Staging Area, and transported to this SWMU for accumulation.

HISTORY OF RELEASE: No evidence of release was observed during the site visit.

UNIT NUMBER: SWMU-8b

UNIT NAME: Crush Drums Staging Area

UNIT LOCATION: Northeast corner of the facility, north of the open PRASA tank and pumping station - W001

UNIT DESCRIPTION: Approximately 27 feet by 12.5 feet dirt floor area, cover with an aluminum roof . The roof was under construction during the VSI. Crush metal drums are accumulated in containers or bins prior to their shipment to a metal recycling facility.

RELEASE CONTROL: N/A

DATE OF OPERATIONS STARTED: 2002

CURRENT STATUS: Active

WASTES MANAGED: Crush drums that previously contained Lilly's products or raw material. Once the drums meet the definition of RCRA empty, they are crushed at SWMU #7, Crush Drums Staging Area, and transported to this SWMU for accumulation.

HISTORY OF RELEASE: No evidence of release was observed during the site visit.

UNIT NUMBER: SWMU-9a

UNIT NAME: Former Wood Pallet Staging Area

UNIT LOCATION: South of PM-14 Building

UNIT DESCRIPTION: Approximately 15 feet by 15 feet area of dirt and gravel floor.

RELEASE CONTROL: N/A

DATE OF OPERATIONS STARTED: 1980

CURRENT STATUS: Inactive

WASTES MANAGED: Wood pallets were accumulated on this area prior to shipping for reconditioning.

HISTORY OF RELEASE: No evidence of release was observed during the site visit.

UNIT NUMBER: SWMU-9b
UNIT NAME: Wood Pallet Staging Area
UNIT LOCATION: Southwest of PM-11 Building (by facility south fence)
UNIT DESCRIPTION: Approximately 15 feet by 15 feet area of dirt and gravel floor.
RELEASE CONTROL: N/A
DATE OF OPERATIONS STARTED: 2002
CURRENT STATUS: Active
WASTES MANAGED: Wood pallets are accumulated on this area prior to shipping for reconditioning.
HISTORY OF RELEASE: No evidence of release was observed during the site visit.

UNIT NUMBER: SWMU-11
UNIT NAME: Recycling Material Area
UNIT LOCATION: PM-14, Southwest corner of the facility
UNIT DESCRIPTION: Approximately 40 feet by 30 feet concrete floor with a steel roofed structure. Used for the accumulation of recyclable material in containers prior to shipment to offsite recycling facilities. A satellite hazardous waste accumulation area (one 55 gallons drum) is kept on this area. Also, oil is stored at this area.
RELEASE CONTROL: Dike surrounding the area used for storing and dispensing oil. Satellite accumulation container is placed above a pallet with secondary containment.
DATE OF OPERATIONS STARTED: 1985
CURRENT STATUS: Active
WASTES MANAGED: Recyclable material mostly consist of: aluminum cans, plastic and glass bottles from the cafeteria operations, and cardboard, paper, newspaper and magazines. Also hazardous wastes, D001, from maintenance personnel from cleaning painting equipment.
HISTORY OF RELEASE: Oil releases were observed inside the dike were oil is stored and dispensed in smaller containers for usage on the facility day-to-day operation. Outside the dike no releases were observed during the VSI.

UNIT NUMBER: SWMU-16

UNIT NAME: Hazardous Waste Tank Trucks Loading and Unloading Area

UNIT LOCATION: PM-8, Southwest corner of PM-8

UNIT DESCRIPTION: Approximately 20 feet by 40 feet concrete floor with a steel roof structure. Hazardous wastes are loaded and unloaded in this area from/to tank trucks.

RELEASE CONTROL: Culvert drain, with a metal cover, surrounding the SWMU that transport rainwater, or any potential release, to a secondary underground containment tank of 24 feet long by 11 feet-8 inches wide by 8 feet 10 inches deep. Accumulated liquids in the secondary containment tank are evaluated for visual characteristics, such as color, oil sheen, as well as odors. If any of the above characteristics are noticed the liquids are discarded in the hazardous waste tanks for incineration, otherwise the liquids will be managed in Lilly's storm water system.

DATE OF OPERATIONS STARTED: 1984

CURRENT STATUS: Active

WASTES MANAGED: Hazardous wastes from Lilly Carolina sites and fill ups to be shipped to other Lilly sites in the United States. The EPA codes of the waste managed are: D001, F002, F003, F005, D018, D019, D021, D022, D028, D038, U002, U003, U154, U213, and U220.

HISTORY OF RELEASE: No evidence of release was observed during the site visit.

UNIT NUMBER: SWMU-17

UNIT NAME: Hazardous Waste Containers Loading and Unloading Area

UNIT LOCATION: PM-7

UNIT DESCRIPTION: Approximately 60 feet by 20 feet concrete area partially roofed. Hazardous wastes are loaded and unloaded in this area from to trucks with finger lift.

RELEASE CONTROL: Isolated culvert drain, U-shape secondary containment, surrounding an area of approximately 52 feet long by 18 feet wide by 16 inch deep. The system is isolated (no valves or drains connects this culvert with other areas). Accumulated liquids in the secondary containment system are evaluated for visual characteristics, such as color, oil sheen, as well as odors.

If any of the above characteristics are noticed the liquids are discarded in the hazardous waste tanks for incineration, otherwise the liquids will be managed in Lilly's storm water system.

DATE OF OPERATIONS STARTED: 1988

CURRENT STATUS: Active

WASTES MANAGED: Hazardous wastes from Lilly Carolina sites and drums to be shipped to other Lilly sites in the United States. The EPA codes of the waste managed are: D001, F002, F003, F005, D018, D019, D021, D022, D028, D038, U002, U003, U154, U213, and U220.

HISTORY OF RELEASE: No evidence of release was observed during the site visit.

UNIT NUMBER: SWMU-18a

UNIT NAME: South Process Waste Lift Station

UNIT LOCATION: PM-6

UNIT DESCRIPTION: Underground vault approximately 10 feet long by 10 feet wide by 10 feet in depth, with a stainless steel tank, piping and a sump pump. The Stainless steel tank inside the vault collects wash water from the production area clean up operation before is pumped to the hazardous waste storage tanks for incineration.

RELEASE CONTROL: The concrete vault is used as a secondary containment.

DATE OF OPERATIONS STARTED: 1991

CURRENT STATUS: Active

WASTES MANAGED: Rinse wastewater from the cleaning of production area.

HISTORY OF RELEASE: A clear liquid was observed flowing from the top of the stainless steel tank inside the vault to the vault floor. Floor was flooded with the liquid. A strong solvent odor was emanating from the vault during the VSI.

UNIT NUMBER: SWMU-20

UNIT NAME: Asbestos for Offsite Disposal Accumulation Area

UNIT LOCATION: PM-14, Southwest corner of the facility, North of SWMU - 11.

UNIT DESCRIPTION: Wood frame building with metal roof of approximately 12 feet by 12 feet concrete floor area. Waste containing asbestos is placed in this area before shipping out for disposal.

RELEASE CONTROL: N/A

DATE OF OPERATIONS STARTED:

CURRENT STATUS: Active

WASTES MANAGED: Waste containing asbestos mainly from insulation cover when replacing old/damaged pipes.

HISTORY OF RELEASE: No evidence of releases was observed during the VSI.

UNIT NUMBER: SWMU-22

UNIT NAME: Callidus Hazardous Waste Liquids Incinerator

UNIT LOCATION: PM-29, East of facility

UNIT DESCRIPTION: The incinerator is a horizontal, cylindrical thermal oxidizer, which uses kerosene as auxiliary fuel, with air pollution control equipment installed on steel structure on top of concrete floor of approximately 86 feet by 35 feet area. The combustion gas from the treatment of hazardous waste is treated in a wet air pollution control system which consist of a full quench, a packed tower, a hydro sonic scrubber an entrainment separator and a stack. A draft fan is used to induce combustion gas movement. The incinerator will only treat liquid waste.

RELEASE CONTROL: The Callidus incinerator is fully diked with concrete structure capable of collecting approximately 11,900 gallons of liquids.

DATE OF OPERATIONS STARTED: Unit has not started operation at time of the VSI.

CURRENT STATUS: Start-up runs. Will become active once unit is permitted.

WASTES MANAGED: N/A.

HISTORY OF RELEASE: Facility was not operating at the time of the VSI.

UNIT NUMBER: AOC-2

UNIT NAME: Fire Training Area

UNIT LOCATION: Southeast corner of the facility, outside the facility main fenced area.

UNIT DESCRIPTION:	Approximately 11 feet by 11 feet concrete floor. A stainless steel container, of approximately 50 gallons capacity, is kept in the area where the fire is started for training purposes. Accumulated rainwater within the diked area is evaluated for visual characteristics, such as color, oil sheen, as well as odors. If any of the above characteristics are noticed the rainwater is discarded in the hazardous waste tanks for incineration, otherwise the wastewater will be pumped out to the ground surrounding the AOC.
RELEASE CONTROL:	A 6 inch dike surrounds the concrete floor.
DATE OF OPERATIONS STARTED:	1980
CURRENT STATUS:	Active
WASTES MANAGED:	Fuels and fire fighting chemicals.
HISTORY OF RELEASE:	Possible incidental releases from fire extinguisher training. No evidence of releases was observed during the site visit.
UNIT NUMBER:	AOC-4
UNIT NAME:	Generator Building
UNIT LOCATION:	PM-4, North area of facility
UNIT DESCRIPTION:	Building of approximately 16 feet by 16 feet. Rainwater, wastewater, and hazardous wastes samples are kept in two refrigerators inside of the building.
RELEASE CONTROL:	Drainage ditch on culvert, approximately 60 feet long by 18 inches wide.
DATE OF OPERATIONS STARTED:	1988
CURRENT STATUS:	Active
WASTES MANAGED:	Hazardous wastes, wastewater, and stormwater samples.
HISTORY OF RELEASE:	During hurricane Georges in 1998 flood water impacted the area overturning the refrigerator spilling the content into the flood waters. No evidence of release was observed during the site visit.

VI. CONCLUSIONS AND FURTHER ACTION

This section presents the conclusions and further actions for the SWMUs and AOCs identified during the PR and VSI of the Lilly Caribe of Mayaguez facility. For each unit, the potential for release to the soils, groundwater, surface water, and air was assessed. Twenty-nine (29) SWMUs and AOCs were identified during the investigation. One unit, the South Process Waste Lift Station (SWMU-18a) was identified as a potential source of release of hazardous constituents into the environment.

TABLE OF CONCLUSIONS AND FURTHER ACTION

SWMU/Description	Conclusion	Further Corrective Action Requirements
SWMU #8a - Former Crush Drum Staging Area	Accumulation of crushed drums prior to be shipment to recycling facility. Drums are RCRA empty and rinsed before crushed. The exposure potential for this unit is considered low. No evidence of release was noticed in this area.	No RFI required. No further corrective action required.
SWMU #8b - Crush Drum Staging Area	Accumulation of crushed drums prior to be shipment to recycling facility. Drums are RCRA empty and rinsed before crushed. The exposure potential for this unit is considered low. No evidence of release was noticed in this area.	No RFI required. No further corrective action required.
SWMU #9a - Former Wood Pallet Staging Area	Wood pallets were accumulated on this area prior to shipping for reconditioning. The exposure potential for this unit is considered low. No evidence of release was noticed in this area.	No RFI required. No further corrective action required.
SWMU #9b - Wood Pallet Staging Area	Wood pallets are accumulated on this area prior to shipping for reconditioning. The exposure potential for this unit is considered low. No evidence of release was noticed in this area.	No RFI required. No further corrective action required.

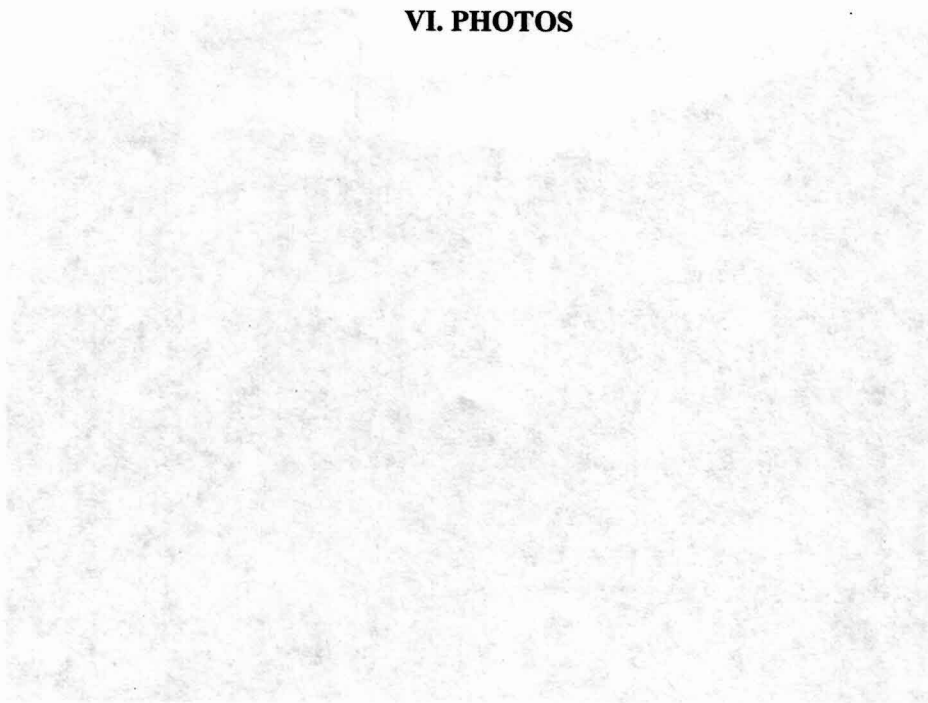
SWMU/Description	Conclusion	Further Corrective Action Requirements
SWMU #11 - Recycling Material Area	<p>Accumulation of recyclable material in containers prior to shipment to offsite recycling facilities. A satellite hazardous waste accumulation area (one 55 gallons drum) and oil are stored at this area.</p> <p>Releases of oil were observed in this are inside the provided secondary containment area when filling containers with oil for the daily operations. In general, housekeeping issues.</p> <p>The exposure potential for this unit is considered low.</p> <p>No evidence of release was noticed in this area.</p>	No RFI required. No further corrective action required.
SWMU #16 - Hazardous Waste Tank Trucks Loading and Unloading Area	<p>Hazardous wastes are loaded and unloaded in this area from/to tank trucks. An underground secondary containment tank was added to this unit.</p> <p>The exposure potential for this unit is considered low.</p> <p>No evidence of release was noticed in this area.</p>	No RFI required. No further corrective action required.
SWMU #17 - Hazardous Waste Containers Loading and Unloading Area	<p>Hazardous wastes are loaded and unloaded in this area from to trucks with finger lift. The area has a culvert drain that acts as secondary containment.</p> <p>The exposure potential for this unit is considered low.</p> <p>No evidence of release was noticed in this area.</p>	No RFI required. No further corrective action required.

SWMU/Description	Conclusion	Further Corrective Action Requirements
SWMU #18a - South Process Waste Lift Station	<p>Stainless steel tank inside the vault collects wash water from the production area clean up operation before is pumped to the hazardous waste storage tanks for incineration.</p> <p>The exposure potential for this unit is considered high.</p> <p>Evidence of a release was noticed in this area during the VSI.</p>	RFI required. Further corrective action is required.
SWMU #20 - Asbestos for Offsite Disposal Accumulation Area	<p>The exposure potential for this unit is considered low.</p> <p>No evidence of release was noticed in this area.</p>	No RFI required. No further corrective action required.
SWMU #22 - Callidus Liquid Incinerator	<p>Unit was not operating during the VSI.</p> <p>The exposure potential for this unit is considered low.</p> <p>No evidence of release was noticed in this area.</p>	<p>New Unit. On permit renewal application.</p> <p>No RFI required. No further corrective action required.</p>
AOC #2 - Fire Training Area	<p>Stainless steel container, of approximately 50 gallons capacity, is kept in the area where the fire is started for training purposes. The floor is diked to prevent its content to reach the ground outside the unit.</p> <p>The exposure potential for this unit is considered low.</p> <p>No evidence of release was noticed in this area.</p>	No RFI required. No further corrective action required.
AOC #4 - Generator Building	<p>During hurricane Georges in 1998 flood water impacted the area overturning the refrigerator spilling the content into the flood waters. The spilled sample got mixed with the flood waters.</p> <p>The exposure potential for this unit is considered low.</p> <p>No evidence of release was noticed in this area.</p>	No RFI required. No further corrective action required.



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VI. PHOTOS



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Photo 1 - SWMU #8b, Crush Drum Staging Area. Area was under construction at the time of the VSI



Photo 2 - SWMU #9a, Former Wood Pallet Staging Area.



Photo 3 - SWMU #9b, Wood Pallet Staging Area.



Photo 4 - SWMU #10, Former Used Batteries Staging Area.



Photo 5 - SWMU #11, Recycling Material Building.

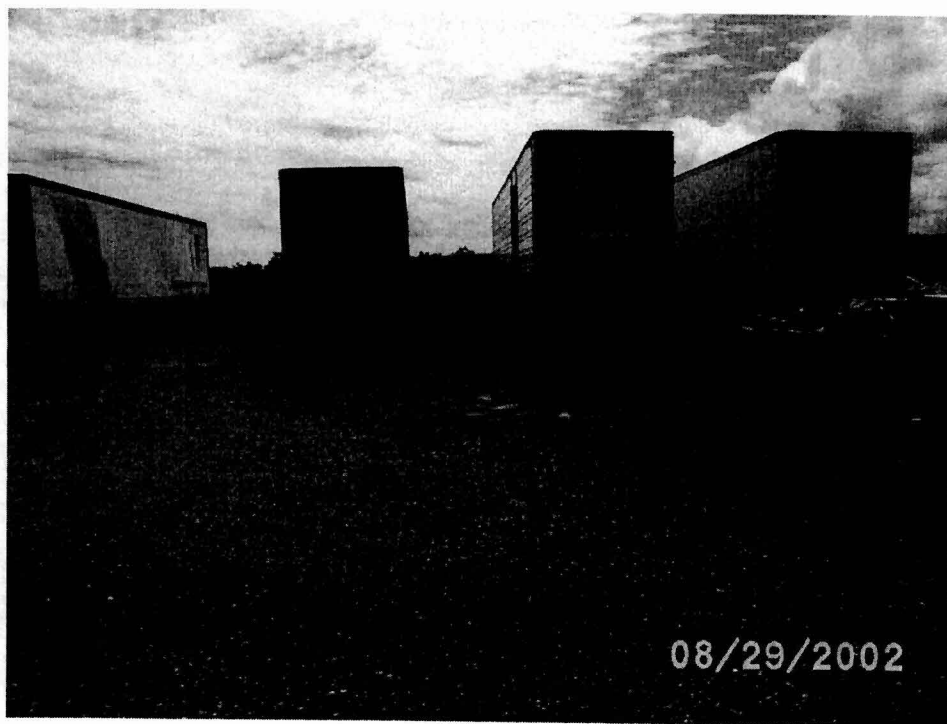


Photo 6 - SWMU #12, Construction Debris/Soil Staging Area (L1)



Photo 7 - SWMU #16, Hazardous Waste Truck Tank Loading and Unloading Area



Photo 8 - SWMU #17, Hazardous Waste Truck Tank Loading and Unloading Area



Photo 9 - SWMU #18a, South Process Waste Lift Station. Vault was flooded with liquid emanating from the top of the stainless steel tank. Strong solvent odor was perceived.

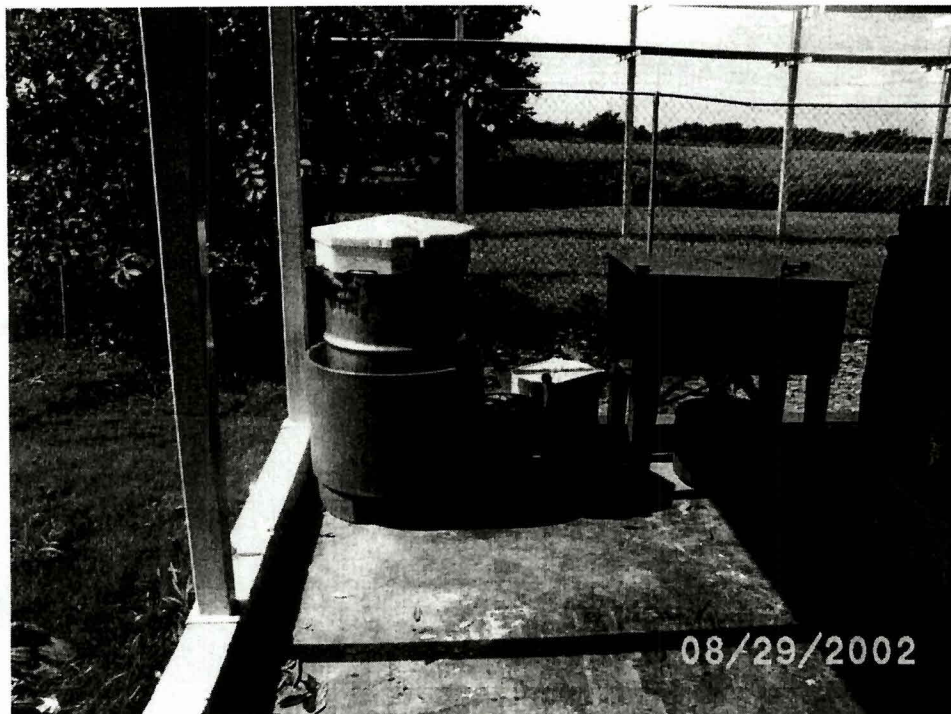


Photo 10 - SWMU #19, Used Oil Accumulation Area.



Photo 11 - SWMU #20, Asbestos for Offsite Disposal Accumulation Area.



Photo 12 - SWMU #22, Callidus Liquid Incinerator. New unit, was not operational at the time of the VSI.



Photo 13 - AOC #1, Old Fire Training Area.



Photo 14 - AOC #2, Fire Training Area.



Photo 15 - AOC #4, Generator Building. Entrance of Building.

V. ATTACHMENTS

ATTACHMENT A

ATTACHMENT B

